

ANATOMICAL PLATES
OF
MIDWIFERY
WITH
CONCISE EXPLANATIONS
SELECTED AND REDUCED FROM
SMELLIE'S LARGE TABLES.
ADAPTED TO THE PRACTICE OF
OF THIS BRANCH OF SCIENCE;
AND
PRINCIPALLY INTENDED
FOR THE
USE OF STUDENTS.

SECOND EDITION, CAREFULLY REVISED AND CORRECTED.

London:

E. COX AND SON,

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AND J. COX, BERNER'S STREET, OXFORD STREET.

1823

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ADVERTISEMENT.

THE plates of SMELLIE, so justly celebrated, are here offered to the Profession. They are, indeed, reduced in size and number, but they are still more reduced in price. Nor have they, perhaps, been injured by compression. The superfluities alone have been retrenched; the essentials remain. In this endeavour to diminish the price of Obstetric knowledge, the Editor trusts he shall be supported by the Patronage of the Students in Midwifery.

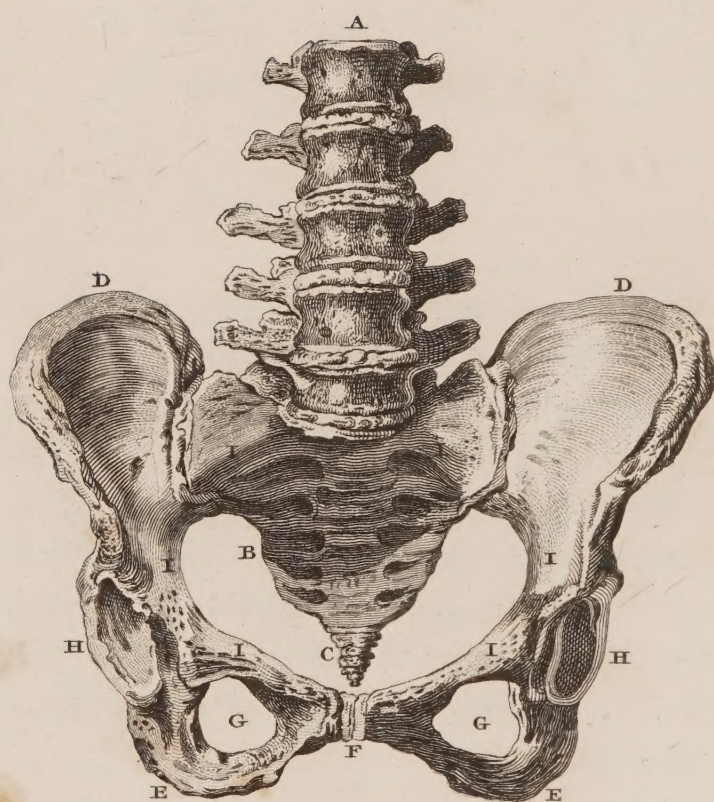


PLATE I.

Represents, in a front view, the bones of a well formed Pelvis.

- A The five vertebræ of the loins.
- B The os sacrum.
- C The os coccygis.
- D.D The ossa ilium.
- E.E The ossa ischium.
- F The ossa pubis.
- G The foramina magna.
- H The acetabula.
- I. I. I I. I. I The brim of the pelvis, or that circumference of its cavity, which is described at the sides by the inferior parts of the ossa ilium, and at the back and fore parts by the superior parts of the ossa pubis and sacrum.

In this Table, besides the general structure and figure of the several bones, the dimensions of the brim of the pelvis, and the distance between the under part of the ossa ischium, are particularly to be attended to; from which it will appear that the cavity of the brim is commonly wider from side to side than from the back to the fore-part, but that the sides below are in the contrary proportion. The reader, however, ought not to conclude from this, that every pelvis is similar in figure and dimensions, since even well formed ones differ in some degree from each other. In general, the brim of the pelvis measures about five inches and a quarter from side to side, and four inches and a quarter from the back to the fore-part; there being likewise the same distance between the inferior parts of the ossa ischium. All these measures, however, must be understood as taken from the skeleton; for, in the subject, the cavity of the pelvis is considerably diminished by its teguments and contents. Correspondent also to this diminution, the usual dimensions of the head of the full-grown fœtus are but three inches and a half from ear to ear, and four inches and a quarter from the fore to the hind head.

PLATE II.

Represents the Uterus in the eighth or ninth month of Pregnancy.

- A The uterus, as stretched to near its full extent, with the waters, and containing the foetus entangled in the funis, the head presenting at the upper part of the pelvis.
- B.B The superior part of the ossa ilium.
- C.C The acetabula.
- D.D The remaining posterior parts of the ossa ischium.
- E The coccyx.
- F The inferior part of the rectum.
- G.G.G The vagina stretched on each side.
- H The os uteri, the neck of the womb being stretched to its full extent, or entirely obliterated.
- I.I Part of the vesica urinaria.
- K.K The placenta at the superior and posterior part of the uterus.
- L.L The membranes.
- M The funis umbilicalis.

This plate shews in what manner the uterus stretches, and how its neck grows shorter, in the different periods of pregnancy.

Notwithstanding it has been handed down as an invariable truth, from the earliest accounts of the art to the present times, that when the head of the foetus presented, the face was turned to the posterior part of the pelvis; yet from Mr. Ould's observation, as well as from some late dissections of the gravid uterus, and what I myself have observed in practice, I am led to believe, that the head presents for the most part, as is here delineated, with one ear to the pubes, and the other to the os sacrum; though sometimes this may vary, according to the form of the head, as well as that of the pelvis.

Consult Dr. Hunter's elegant plates of the gravid uterus.







PLATE III.

Gives a front view of Twins in Utero in the beginning of Labour; the anterior parts being removed.

- A The uterus as stretched with the membranes and waters.
- B.B The superior part of the ossa ilium.
- C.C The acetabula.
- D.D The ossa ischium.
- E The coccyx.
- F The lower part of the rectum.
- G.G The vagina.
- H The os internum stretched open, about a finger's breadth with the membranes and waters in the time of labour-pains.
- I.I The inferior part of the uterus stretched with the waters which are below the head of the child that presents.
- K.K The two placentæ adhering to the posterior part of the uterus, the two foetuses lying before them; one with its head in a proper position, at the inferior part of the uterus; and the other situated preternaturally, with the head to the fundus; the bodies of each are here entangled in their proper funis, which frequently happens in the natural as well as preternatural positions.
- L.L.L The membranes belonging to each placenta.

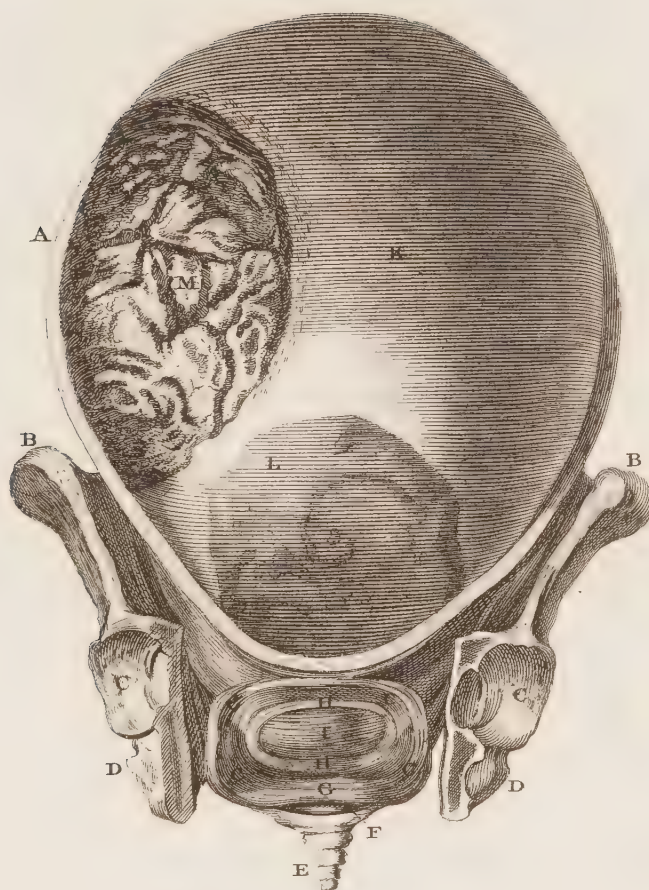
This representation of Twins, I have placed here, in order to shew the os uteri grown much thinner than in the former figure, a little open, and stretched by the waters and membranes which are pushed down before the head of one of the foetuses in time of a labour-pain.

PLATE IV.

Exhibits another front view of the Gravid Uterus in the beginning of Labour; the anterior parts being removed, as in the former plate; but in this the membranes, not being broken, form a large bag, containing the waters and fœtus.

- A The substance of the uterus.
- B.B.C.D.D The bones of the pelvis.
- E The coccyx.
- F The inferior part of the rectum.
- G.G.G.G The vagina.
- H.H The mouth of the womb largely stretched in time of a pain; with E, the membranes and waters. This circumstance makes it usually certain that labour is begun; whereas, from the degree of dilatation represented in the former Plate, there is little to be ascertained, unless the pains are regular and strong, the os uteri being often found more open several days, and even weeks before labour commences.
- K The chorion.
- L The same dissected off at the inferior part of the uterus, in order to shew the head of the foetus through the amion. N. B. This hint is taken from one of Dr. Albinus's Tables of the gravid uterus.
- M The placenta; the external convex surface of which, divided into a number of lobes, is here represented, its concave internal parts being covered by the chorion.

The placenta has been found adhering to all the different parts of the internal surface of the uterus, and sometimes even over the inside of the os uteri; this



this last manner of adhesion, however, always occasions floodings as soon as the same begins to dilate.

See a valuable essay on Uterine Hæmorrhage in advanced gestation, by E. Rigby, third edition, London, 1784; in which the distinction between those floodings that require immediate delivery, and those which may be expected to yield to a more simple treatment, is properly ascertained.

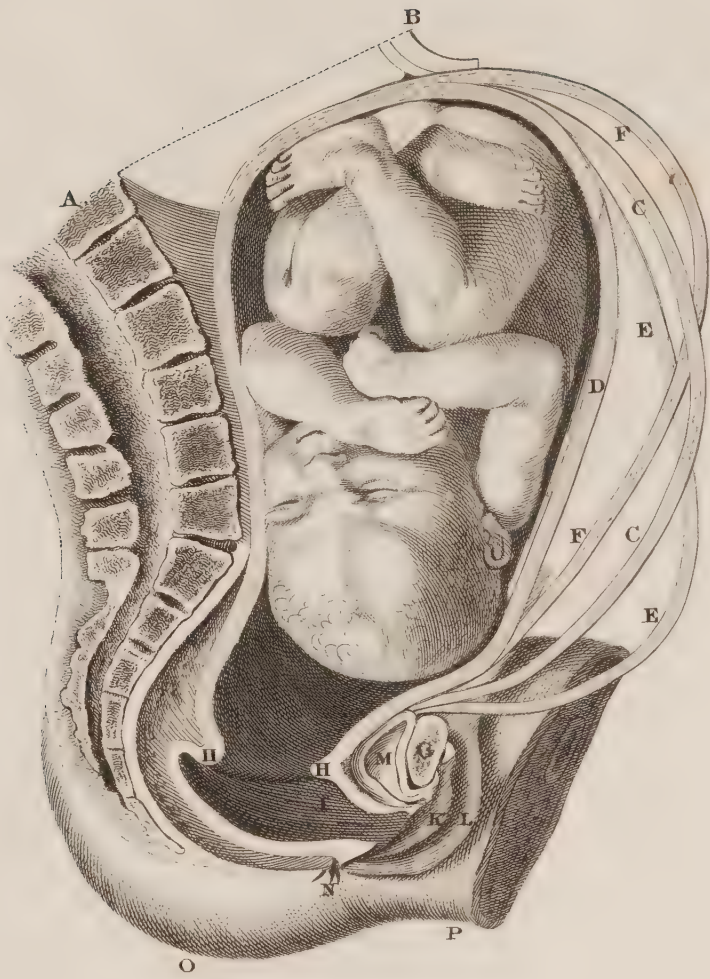
Plate II. III. shew the internal surface of the placenta towards the fœtus, with the vessels composing its substance proceeding from the funis, which is inserted in different placentæ, into all the different parts of the same, as well as in the middle.

PLATE V

Shews (in a lateral view and longitudinal division of the parts) the Gravid Uterus when labour is somewhat advanced.

- A The lowest vertebra of the back
- B The scrobiculus cordis ; the distance from which to the last mentioned vertebra is here shewn by dotted lines ; as also part of the region below the diaphragm.
- C.C The usual thickness and figure of the uterus when extended with the waters at the latter end of pregnancy.
- D The same, contracted and grown thicker after the waters are evacuated.
- E.E The figure of the uterus when pendulous. In this case, if the membranes break when the patient is in an erect position, the head of the foetus runs a risk of sliding over and above the ossa pubis, whence the shoulders will be pushed into the pelvis.
- F.F The figure of the uterus, when stretched higher than usual, which generally occasions vomitings, and difficulty of breathing. Consult on this subject Mr. Levret, sur le Mechanisme de Differentes Grossesses.
- G The os pubis of the left side.
- HH The os internum.
- I The vagina.
- K The left nympha.
- L The labium pudendi of the same side.
- M The remaining portion of the bladder.
- N The anus.
- O.P The left hip and thigh.

In this period of labour, the os uteri being more and more stretched by the membranes pushing down, and beginning to extend to the vagina, a great quantity of waters is forced down at the same time, and (if the membranes



membranes break) is discharged; whence the uterus contracts itself nearer to the body of the fœtus, which is here represented in a natural position, with the vertex resting at the superior part of the ossa pubis, and the forehead towards the right os ilium. As soon as the uterus is in contact with the body of the foetus, the head of the same is forced backward towards the os sacrum from the line of the abdomen B.G. into that of the pelvis, viz. from the uppermost F. to near the end of the coccyx, and is gradually pushed lower, as in the following plate.

PLATE VI.

Shews the natural position of the head of the Fœtus when sunk down into the middle of the Pelvis after the Os Internum is fully opened; A large quantity of the Waters being protruded with the Membranes through the Os Externum, but prevented from being all discharged, by the head's filling up the Vagina.

- A The uterus a little contracted, and thicker, from some of the waters being sunk down before the child, or discharged.
- B The superior parts of the ossa ilium.
- C The inferior part of the rectum.
- D.D The vagina largely stretched with the head of the foetus.
- E.E The os internum fully opened.
- F A portion of the placenta.
- G.G The membranes.
- H.H The ligamenta lata.
- I.I The ligamenta rotunda. Both these last stretched upwards with the uterus.

The vertex of the fœtus being now down at the inferior part of the right os ischium, and the wide part of the head at the narrow and inferior part of the pelvis, the forehead, by the force of the pains, is gradually moved backwards; and, as it advances lower, the vertex and occiput turn out below the pubes, as in the next Plate. Hence may be learnt of what consequence it is to know, that it is wider from side to side at the brim of the pelvis, than from the back to the fore part; and that it is wider from the fore to the hind head of the child, than from ear to ear.





PLATE VII.

Shews the Forehead of the Fœtus turned (in its progression downwards, from its position in the former plate) backwards to the os sacrum, and the occiput below the pubes; by which means the narrow part of the head is to the narrow part of the pelvis, that is, between the inferior parts of the ossa ischium. Hence it may be observed, that, though the distance between the inferior parts of the last mentioned bones is much the same as between the coccyx and pubis; yet, as the cavity of the pelvis is much shallower at the anterior than lateral part, the occiput of the fœtus, when come down to the inferior part of either os ischium, turns out below the pubis. This answers the same end as if the pelvis itself had been wider from the posterior part than from side to side; the head likewise enlarging the cavity by forcing back the coccyx, and pushing out the external parts in form of a large tumour.

A The uterus contracted closely to the fœtus after the waters are evacuated.

B.C.D The vertebræ of the loins, or sacrum, and coccyx.

E The anus.

F The left hip

G The perinæum,

H The os externum beginning to dilate.

I The os pubis of the left side.

K The remaining portion of the bladder.

L The posterior part of the os uteri.

N. B. Although for the most part, at or before this period, the waters are evacuated, yet it often happens, that more or less will be retained, and not all discharged, till after the delivery of the child; occasioned from the presenting part of the fœtus coming into close contact with the lower or under part of the uterus, raising or os externum, immediately or soon after the membranes break.

PLATE VIII.

Shews in what manner the head of the fœtus is helped along with the forceps, as artificial hands, when it is necessary to assist with the same for the safety of either mother or child.

A.A.B.C^A The vertebræ of the loins, os sacrum, and coccyx.

D The os pubis of the left side.

E The remaining part of the bladder.

F The intestinum rectum.

G.G.G The uterus.

H The mons veneris.

I The clitoris, with the left nympha.

K The corpus cavernosum clitoridis.

X The meatus urinarius.

K The left labium pudendi.

L The anus.

N The perinæum.

Q.P The left hip and thigh.

R The skin and muscular part of the loins.

The patient in this case may be placed, as in this Plate, on her side, with her breech a little over the side or foot of the bed, her knees being likewise pulled up to her belly, and a pillow placed between them, care being taken, at the same time, that the parts are by a proper covering, defended from the external air. If the hairy scalp of the fœtus is so swelled, that the situation of the head cannot be distinguished by the sutures, as in Plate V.; or, if by introducing a finger between the head of the child and the pubes, or groins, the ear or back part of the neck cannot be felt, the os externum must be gradually dilated in the time of the pains with the operator's fingers, (previously lubricated with hog's lard), till the whole hand can be introduced into the vagina, and slipped up, in a flattish form, between the posterior part of the pelvis and child's head. This last is then to be raised up as high as possible, to allow room for the fingers to reach the
ear



ear and posterior part of the neck. When the position of the head is known, the operator must withdraw his hand, and wait to see if the stretching of the parts will renew or increase the labour-pains, and allow more space for the advancement of the head in the pelvis. If this, however, proves of no effect, the fingers are again to be introduced as before, and one of the blades of the forceps, (lubricated with lard) is then to be applied along the inside of the hand or fingers, and left ear of the child, as represented in the Plate. But, if the pelvis is distorted, and projects forward at the superior part of the os sacrum, and the forehead therefore cannot be moved a little backwards, in order to turn the ear from that part of the pelvis which prevents the end of the forceps to pass the same; in that case, I say, the blade must be introduced along the posterior part of the ear at the side of the distorted bone. The hand that was introduced is then to be withdrawn, and the handle of the introduced blade held with it as far back as the perinæum will allow, whilst the fingers of the other hand are introduced to the os uteri, at the pubes or right groin, and the other blade placed exactly opposite to the former. This done, the handles being taken hold of and joined together, the head is to be pulled lower and lower every pain, till the vertex, as in this Plate, is brought down to the inferior part of the left ischium, or below the same. The wide part of the head being now advanced to the narrow part of the pelvis betwixt the tuberosities of the ossa ischium, it is to be turned from the left ischium, out below the pubes, and the forehead backwards to the concave part of the os sacrum and coccyx, and afterwards the head brought along and delivered, as in Plate IX. and X. But, if it is found that the delivery will require a considerable degree of force, from the head being large, or the pelvis narrow, the handles of the forceps are to be tied together with a fillet, as represented in this Table, to prevent their position being changed, whilst the woman is turned on her back, which is then more convenient for delivering the head than when laying on the side.

N.B. When

N.B. When the head is wedged in the pelvis, and the basis not yet protruded below the brim, the forceps can neither be employed with advantage nor safety; and to attempt the mechanical turns *recommended here* would be difficult and hazardous.

This Plate shews that the handles of the forceps ought to be held as far back as the os externum will allow, that the blades may be in an imaginary line between that and the middle space between the umbilicus and the scrobiculus cordis. When the forceps are applied along the ears and sides of the head, they are nearer to one another, have a better hold, and mark less than when over the occipital and frontal bones.





PLATE IX.

In this, the os externum is open, the occiput comes low down from below the pubes, and the forehead past the coccyx, by which both the anus and perinæum are stretched out in form of a large tumour.

When the head is so far advanced, the operator ought to extract with great caution, lest the parts should be torn. If the labour-pains are sufficient, the forehead may be kept down, and helped along, in a slow manner, by pressing against it with the fingers on the external parts below the coccyx; at the same time the forceps being taken off, the head may be allowed to stretch the os externum more and more, in a gradual manner, from the force of the labour-pains, as well as assistance of the fingers. But, if the former are weak and insufficient, the assistance of the forceps must be continued. (Vide the description of the parts in Plate VIII.) S.T. in this, represent the left side of the os uteri. The dotted lines demonstrate the situation of the bones of the pelvis on the right side, and may serve as an example for all the lateral views of the same.

a.b.c.h. The outlines of the os ilium.

D.e.f The same of the pubes and ischium.

i.i.k The acetabulum.

m.n The foramen magnum.

l.m The anus.

m.n Perinæum.

o Common antiguments of the abdomen.

r The short forceps.

PLATE X.

In the same section of the parts, but with a view of the right side, shews the head of the foetus in the contrary position to the three last figures the vertex being here in the concavity of the sacrum, and the forehead turned to the pubes.

- A.B The vertebræ of the loins, os sacrum and coccygis.
- C The os pubis of the right side.
- D The anus.
- E The os externum not yet begun to stretch.
- F The nympha.
- G The labium pudendi of the right side.
- H Hip and thigh.
- I.L The uterus contracted, the waters being all discharged.

When the head is small, and the pelvis large, the parietal bones and the forehead will, in this case, as they are forced downwards by the labour-pains, gradually dilate the os externum, and stretch the parts between that and the coccyx, in form of a large tumour, till the face comes down below the pubis, when the head will be safely delivered. But, if the same be large, and the pelvis narrow, the difficulty will be greater, and the child in danger; as in the following Plate.





PLATE XI.

Shews, in a lateral view, the face of the child presenting, and forced down into the lower part of the pelvis, the chin being below the pubes, and the vertex in the concavity of the os sacrum; the waters being all discharged, the uterus appears closely joined to the body of the child, round the neck of which is one circumvolution of the funis.

A.B The vertebræ of the loins, os sacrum and coccygis.

C The os pubis of the left side.

D The inferior part of the rectum.

E The périnæum.

F The left labium pudendi.

G.G.G The uterus.

When the pelvis is large, the head, if small, will come along in this position, and the child be saved; for, as the head advances lower, the face and forehead will stretch the parts between the fraenum labiorum and coccyx, in form of a large tumour. As the os externum likewise is dilated, the face will be forced through it; the under part of the chin will rise upwards over the anterior part of the pubes; and the forehead, vertex, and occiput, from the parts below. If the head, however, is large, it will be detained, either when higher, or in this position. In this case, if the position cannot be altered to the natural, the child ought to be turned, and delivered footling.

PLATE XII.

Shews, in a front view of the parts, the forehead of the fœtus presenting at the brim of the pelvis, the face being turned to one side, the fontanelle to the other, and the feet and breech stretched towards the fundus uteri.

A.A The superior part of the ossa ilium.

B The anus.

C The perinæum.

D The os externum; the thickness of the posterior part before it is stretched with the head of the child.

E.E.E The vagina.

F The os uteri not yet fully dilated.

G.GG The uterine.

H The membrana adiposa.

If the face is not forced down, the head will sometimes come along in this manner; in which case the vertex will be flattened, and the forehead raised in a conical form; and when the head comes down to the lower part of the pelvis, the face or occiput will be turned from the side, and come out below the pubes. But, if the head is large, and cannot be delivered by the pains, or if the wrong position cannot be altered, the child must be delivered with the forceps. If they should fail, recourse must be had to embryulcia.







PLATE XIII.

Shews in a lateral view of the right side, the face of the fœtus presenting, as in Plate XI. but in the contrary position ; that is, with the chin to the os sacrum, and the bregma to the pubes, the waters evacuated, and the uterus contracted.

A. The os externum not yet began to stretch.

B. The anus.

In such cases, as well as in those described in the last Plate, if the child is small, the head will be pushed lower with the labour-pains, and gradually stretch the lower part of the vagina and the external parts; by which means the os externum will be more and more dilated, till the vertex comes out below the pubes, and rises up on the outside; in which case the delivery is then the same as in natural labours. But, if the head is large, it will pass along with great difficulty, whence the brain, and vessels of the neck, will be so much compressed and obstructed, as to destroy the child. To prevent which, if called in time, before the head is far advanced in the pelvis, the child ought to be turned, and brought footling. If the head, however, is low down, and cannot be turned, the delivery is then to be performed with the forceps, either by bringing along the head as it presents, or as in the following Plate. See the reference in Plate XI.

N. B. Alarming floodings only excepted, it is bad practice to turn the child when the head presents; and, in cases of relative disproportion between it and the pelvis, we can never propose to save the child by turning.

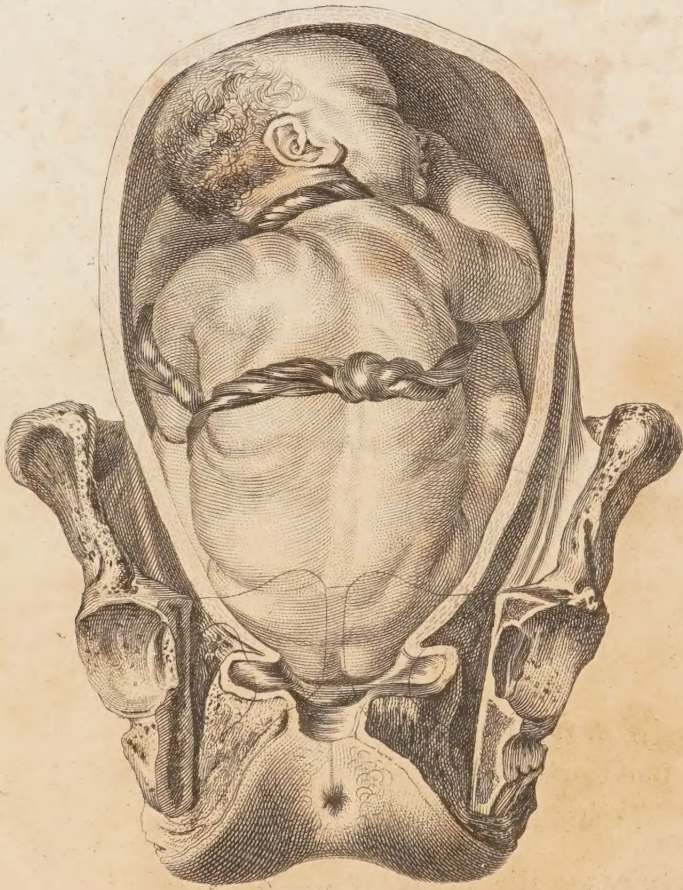
PLATE XIV

Represents, in a front view of the pelvis the breech of the fœtus presenting, and dilating the os internum, the membranes being too soon broken. The fore-parts of the child are to the posterior part of the uterus; and the funis, with a knot upon it, surrounds the neck, arm, and body.

Some time after this Plate was engraved, Dr. Kelly shewed me a subject he had opened, where the breech presented, and the child lay much in the same position with its body as in the second plate, supposing the breech in that figure turned to the pelvis, and the head up to the fundus uteri.

I have sometimes felt, in these cases, (when labour was begun, and before the breech was advanced into the pevis), one hip at the sacrum, the other resting above the os pubis, and the private parts to one side; but, before they could advance lower, the nates were turned to the sides and wide part of the brim of the pelvis with the private parts to the sacrum, as in this plate; though sometimes to the pubes, as in the following plate. As soon as the breech advances to the lower part of the basin, the hips again return to their former position, viz. one hip turned out below the os pubis, and the other at the back parts of the os externum.

In this case, the child, if not very large, or the pelvis narrow, may be often delivered alive by the labour-pains; but, if long detained at the inferior part of the pelvis, the long pressure of the funis may obstruct the circulation. In most cases where the breech presents, the effect of the labour-pains ought to be waited for, till at least they have fully dilated the os internum and vagina, if the same have not been stretched before with the waters and membranes. In the mean time, whilst the breech advances, the os externum



ternum may be dilated gently during every pain, to allow room for introducing a finger or two of each hand to the outside of each groin of the foetus, in order to assist the delivery when the nates are advanced to the lower part of the vagina. But, if the foetus is larger than usual, or the pelvis narrow, and after a long time and many repeated pains, the breech is not forced down into the pelvis, the patient's strength at the same time failing, the operator must, in a gradual manner, open the parts, and, having introduced a hand into the vagina, raise or push up the breech, of the foetus, and bring down the legs and thighs. If the uterus is so strongly contracted that the legs cannot be got down, the largest end of the blunt hook is to be introduced. As soon as the breech or legs are brought down, the body and head are to be delivered, there being no necessity here to alter the child's body.

The description of the parts in this, is the same as in plate XIII. only the dotted lines in this describe the place of the ossa pubis, and anterior parts of the ossa ischium which are moved, and may serve in this respect as an example for all the other front views, where, without disfiguring the plate, they could not be so well put in.

N. B. The use of the blunt hook, in breech cases, is a hazardous expedient; and manual assistance of every kind should be avoided, the most urgent cases only excepted.

See Dr. Hamilton's *Outlines of Midwifery*, page 370. et seq

Lately Published,

A NEW EDITION OF

DR. HUNTER'S

LARGE FOLIO PLATES

OF THE

HUMAN GRAVID UTERUS;

WITH

A RECOMMENDATORY PREFACE,

By THOMAS DENMAN, M. D.